0.00

Memo

QC

Quality Control

NCR: Y	es / No				WORK ORDER NON-O	CONFC	DRN	MANCE / UPDATI	Ε			
	•									QA Closed:	Date	:
Work Orde	r:				DISPOSITION			A	GAINST DE	PARTMENT	PROCESS	
					Rework] [Skid-tube Cro	osstube		Water Jet	Engineering
Part N	0				Scrap]	ľ	Nachining Sn	mall Fab	Pro	d. Eng. Coor.	Quality
					Use-as-is	Th	nerm	oforming F	inishing	Rec/Stor	e/Packaging	Other
NCR N	0				Work Order Update	[]]		Large Fab Cor	mposite		Supplier	
Root				Descri	ption of work order update	Initia	al	Action		Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief I	Eng	Description	n	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling											•	
Operator	_											
Material												
Setup		:										
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-	Cracks				Broken/Damaged	—		on Incomplete		Part Incorre	⊢	Weld
	Crushed/	Crimped.			Burrs			ons Incomplete/Unclea	ar	Part Lost/Mi	ssing	Wrong Stock Pulled
_	Cuffs				Contamination	\vdash		nance		Part Moved		
	Heat Trea	at			Countersink	-	labe			Positioned V		\neg
	Inspectio	n Strip in	Tube		Cut Too Short	Mis	read			Power Loss/	Surge	Other
	Ripples in	Bend			Drill Holes	Offs						
	Torque W	/aves in E	xtrusion	1 <u> </u>	Drawing	Out	t of C	alibration				
	Turning S	equence			Finish	Out	t of S	equence				
	Wave/Tw	ist in Tub	ре		Folio	Out	tside	Dimensions				

DQA: Date:

Quality Control

QC

130

130

NC BRAKE

Brake NC Brake NC

Memo

Memo

Deburr if necessary

Form as per Dwg D3027

140 *140*

QC Quality Control QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

Page 2

Insp. Stamp

 $\mathcal{A}_{\mathcal{A}}$

											DQA:	Date:	
NCR:	res / I	No				WORK ORDER NON-C	100	NFORM	MANCE / UPDATE		QA Closed:	Date:	
											QA Closea.	Date.	
Work Orde	or.					DISPOSITION			AGAINS	ST DE	PARTMENT	PROCESS	
WOIK OIG						Rework	1		Skid-tube Crosstub	oe 🗔		Water Jet	Engineering
Part I	No.				;	Scrap		ľ	Machining Small Fa	ıb	Pro	d. Eng. Coor.	Quality
	-	·				Use-as-is			oforming Finishir	~}	Rec/Stor	e/Packaging	Other
NCR I	No					Work Order Update]		Large Fab Composi	te		Supplier	
		 -	T		Docari	ption of work order update	لِـــ	nitial	Action		Sign &	<u> </u>	
Root Cause	Da	to St	ep	Qty		or Non-conformance	Į.	ief Eng	Description		Date	Verification	QC Inspector
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	Bend	•				Bend	<u> </u>	Grain	•	-	Ovalized	<u> </u>	Pressure/Forced
	$\boldsymbol{\vdash}$	re Not Co	ncen	tric to (o/s	BOM/Route	<u> </u>	Hardwa		-	Over/Under		Temperature/Cure
	Crac				-	Broken/Damaged		4 '	on Incomplete	\vdash	Part Incorre	 	Weld Wrong Stock Pulled
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	Cuffs				-	Contamination	-		-	\vdash	Part Moved	Mrong	
	\vdash	Treat		- ,	<u> </u>	Countersink	-	Mislabe		-	Positioned V		Other
	i ilnen	action Str	in in	LIINA		Cut Too Short	1	Misread	1		Trower Loss/	ourge I	TOUTE

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

Packaging

Memo

January-24-13 7:59:21 AM Item ID: D3027-7 Accept *N900040100* Setup Start Revision ID: Stop Item Name: Clip *10* **Start Qty: 10.00 Start Date:** 1/24/13 **Cust Item ID:** Required Date: 2/06/13 Req'd Qty: 10.00 *10* **Customer:** Reference: Run **Approvals:** Date: Process Plan: Tooling: Date: Stop Date: QC: _ SPC (Y/N): Date: Set Up/ Sequence ID/ **Tool ID** Reject **Operation** Tool # Plan Accept Reject Insp. Qty Work Center ID Description **Run Hours** Code Qty Number Stamp 150 Chemical Conversion Coat per QSI005 4.1 0.00 1613423 *150* HandFinish 0.00 Memo Hand Finishing 160 QC3- Inspect Part Finish 0.00 *160* QC 0.00 Memo Quality Control 170 Identify as per dwg & Stock Location: 0.00 *170* 55024 0.00 Packaging

NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	/ANCE / UPD	ATE	•	_	
				,		<u></u>					QA Closed:	Date);
NAVE WILL COME						DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
Work Ord	er: -	_				Rework	٦	ł	Skid-tube	Crosstube	7	Water Jet	Engineering
Part I	No.					Scrap	1		Machining	Small Fab	Prod	d. Eng. Coor.	Quality
	•					Use-as-is	1	Therm	noforming	Finishing	Rec/Stor	e/Packaging	Other
NCR I	No.					Work Order Update			Large Fab	Composite]	Supplier	
Root			<u> </u>	T	Descri	ption of work order update		Initial	Actio	on	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	nief Eng	Descri	ption	Date	Verification	QC Inspector
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							AUI	LT CATE	GORY				
Landi		1			_	General	_	1		_	7	_	
	\vdash	Bending			`	Bend	\perp	Grain			Ovalized	<u> </u>	Pressure/Forced
	\vdash	Centre No	ot Conce	ntric to	o/s	BOM/Route	<u> </u>	Hardwa		_	Over/Under		Temperature/Cure
	-	Cracks				Broken/Damaged	\perp	-1	ion Incomplete	<u> </u>	Part Incorred	├	Weld
	-	Crushed/	Crimped	-	<u> </u>	Burrs	\perp	- 1	ions Incomplete/U	nclear	Part Lost/Mi	issing [Wrong Stock Pulled
	\vdash	Cuffs				Contamination	<u> </u>	Mainte		ļ	Part Moved		
		Heat Trea			L	Countersink	\vdash	Mislabe		<u> </u>	Positioned V		-1
	-	Inspectio		Tube	_	Cut Too Short		Misread	i		Power Loss/	Surge	Other
•	Ш	Ripples in	Bend			Drill Holes		Offset					
	1	Torque W	aves in E	Extrusio	n	Drawing		Out of 0	Calibration				

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ord January-24-13				*961	192*							Page 4	4
Item ID: Revision ID: Item Name:	D3027-7 Clip			Accept	*N900	<u>040</u>	100)*	Setup	Start Stop	1/I	S1* S2*	
Start Date: Required Date Reference:	1/24/13 :: 2/06/13	Start Qty: 10.00 Req'd Qty: 10.00	*10* *10*		Cust Item I Customer:	D:							
Approvals:	Process P		Date:	Tooling: SPC (Y/N):		ate:			Run	Start Stop	*N *N	R1* R2*	
Sequence ID/ Work Center I 180 *180* QC Quality Control	D	Operation Description QC21- Final Inspection -	Work Order Release	Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accep Qty	t Re Qt	-	Reject Number	Insp. Stamp	

QL13-0H24

NCR: Y	es / No				WORK ORDER NON-O	CON	IFORN	MANCE / UP	DATE			
										QA Closed:	Date:	
Work Orde	r:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N				-	Rework Scrap]		Skid-tube Machining	Crosstube Small Fab	Pro	Water Jet d. Eng. Coor.	Engineering Quality
I dit iv	·				Use-as-is	1		noforming	Finishing	•	re/Packaging	Other
NCR N	0			<u>.</u>	Work Order Update]		Large Fab	Composite	,	Supplier	
Root		· · · · ·		Descri	ption of work order update	11	nitial	Ac	tion	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chi	ief Eng	Desc	cription	Date	Verification	QC Inspector
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Landin	g Gear				General					7		-
	Bending				Bend	Ш	Grain			Ovalized		Pressure/Forced
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	Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
	Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/	/Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Cuffs				Contamination		Mainte	nance		Part Moved		
	Heat Trea	at			Countersink		Mislabe	led		Positioned V	Vrong	-
	Inspection	n Strip in	Tube		Cut Too Short		Misread	i		Power Loss/	Surge	Other
	Ripples in	Bend			Drill Holes		Offset					
Γ	Torque W	/aves in E	xtrusion	ı 🗀	Drawing		Out of 0	Calibration				
Γ	Turning S	equence			Finish		Out of S	Sequence				
Ī	Wave/Tw	ist in Tul	oe		Folio		Outside	Dimensions				

DQA: _____Date: _____

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print

January-24-13 7:59:20 AM

Work Order ID:

96192

Parent Item:

D3027-7

Parent Item Name:

Clip

Start Date: 1/24/13

Required Date: 2/06/13

Page 1

Start Qty: 10.00

Required Qty: 10.00

Comments:

IPP C05.10.07Added forming step and Issue P/OKJ/JLM

IPP Rev:B Now on WaterJet 08-12-08 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.050 2024-T3 .050 sheet		Purchased	No			100	sf	250.8968	0.024	0.252632	- W	13.04	.21,
				Location		Loc Oty	<u>Lo</u>	c Code					1

MAT022 250.8968408 117684 22.4 121216 91.2968408 121889 137.2

												DQA:	Da	te:	
NCR:	Yes	/ No				WORK ORDER NON-C	100	NFORM	MANCE / UP	DATE		_	_		
					****						С	(A Closed:	Da	te:	
NA/ a mla Omala						DISPOSITION				AGAINST DE	EP#	ARTMENT/	PROCESS		
Work Orde	er.					Rework	1		Skid-tube	Crosstube	7		Water Jet		Engineering
Part I	Mo					Scrap			Machining	Small Fab	1	Proc	l. Eng. Coor.	-	Quality
raici	•0.					Use-as-is			noforming	Finishing	1		e/Packaging	-	Other
NCR I	No.					Work Order Update			Large Fab	Composite	1		Supplier	-	
	•										_				
Root					Descri	ption of work order update		Initial	Act	ion		Sign &			
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Descr	iption	┸	Date	Verificatio	n	QC Inspector
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							AUI	T CATE	GORY						
Landi		i				General	_	1			٦,	- II I		Γ-	lo/5
	\vdash	Bending				Bend	\vdash	Grain		_	-	Ovalized		\vdash	Pressure/Forced
	\vdash	Centre No	ot Concei	ntric to	O/S	BOM/Route	<u> </u>	Hardwa		-	-	Over/Under		\vdash	Temperature/Cure
	\vdash	Cracks			<u> </u>	Broken/Damaged	<u> </u>	-1	ion Incomplete		┥.	Part Incorred		\vdash	Weld
		Crushed/	Crimped.		<u> </u>	Burrs	-	-1	ions Incomplete/L	Jnclear	-	Part Lost/Mi	ssing		Wrong Stock Pulled
	igspace	Cuffs			<u> </u>	Contamination	\vdash	Mainte		<u> </u> _	-	Part Moved			
	\vdash	Heat Trea			ļ	Countersink	<u> </u>	Mislabe		<u> </u>	-	Positioned W			1
	1	Inspection	n Strip in	Tube	- 1	Cut Too Short	1	Misread	t		JF	Power Loss/	Surge	\Box	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

DART AEROSPACE LTD	Work Order:	96192
Description: Clip	Part Number:	D3027-7
Inspection Dwg: D3027 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

	X	Firs	t Arti	cle		Prot	otype	
					1			

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.850	+/-0.010	1847	$\sqrt{}$		V	
1.870	+/-0.010	1.864	1		V	
R0.13	+/-0.030	RO.13	/		RG	
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						·
_	^ /					

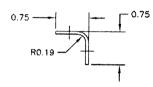
	— A — /	L			
Measured by:	WW		Audited by: OAS	Prototype Approval:	N/A
Date:	13.02	1.21	Date: 9.50 B/04/7	7 Date:	N/A

	Rev	Date	Change	Revised by	Approved
ļ	Α	05.04.26	New Issue P/O D350-689-013	KJ/JLM .	1
Į	B	06.03.09	Dwg Rev upated; Dimensions revised	KJ/JLM	ad

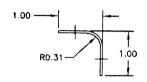


	DESIG	DARI AEROSPACE		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	CHEC	KED	APPROVED #1	DRAWING NO.	REV. B
		-th	-#	D3027 SHEET	1 OF 2
	DATE			TITLE	SCALE
	05.09.20			CLIP	1:2
	Α		01.05.18	NEW ISSUE	
	В		05.09.20	REMOVE HOLES FROM -7	

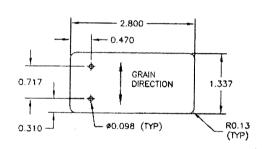




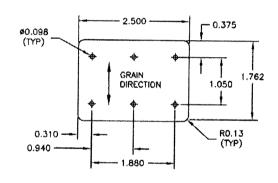
D3027-1 BEND DETAIL



D3027-3 BEND DETAIL



D3027-1 FLAT PATTERN (0.063" SHEET)



D3027-3 FLAT PATTERN (0.050" SHEET)

NOTES:

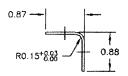
- 1) BREAK ALL UNMARKED SHARP CORNER 0.010 TO 0.020
- 2) MATERIAL: 2024-T3 (QQ-A-250/4)
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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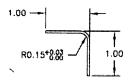
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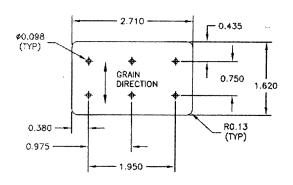
	RF CP		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
	CHECKED N/_	APPROVED M	DRAWING NO.	REV. B	
	H	#	D3027	SHEET 2 OF 2	
l	DATE		TITLE	SCALE	
	05.09.20		CLIP	1:2	



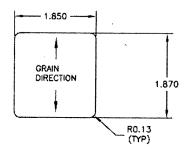
D3027-5 BEND DETAIL



D3027-7 BEND DETAIL



D3027-5 FLAT PATTERN (0.050", SHEET)



D3027-7 FLAT PATTERN (0.050" SHEET)

NOTES:

- 1) BREAK ALL UNMARKED SHARP CORNER 0.010 TO 0.020
- 2) MATERIAL: 2024-T3 (QQ-A-250/4)
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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